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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,126	09/17/2003	Bradley L. Todd	2003-IP-010228US1	4729

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06/30/2006

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EXAMINER
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FIGUEROA, JOHN J

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 06/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/664,126	Applicant(s) TODD ET AL.	
	Examiner John J. Figueroa	Art Unit 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 15-31 and 47-81 is/are pending in the application.
- 4a) Of the above claim(s) 24-27, 31, 51-54 and 68-81 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-31 and 47-68 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/05; 3/06 &amp; 4/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. The objections regarding the Information Disclosure Statement, the drawings and the specification (title) in items 3-5 on pages 6-8 of the Office Action of December 13, 2005 (hereinafter 'OA') have been withdrawn in view of Applicant's submission of the requested non-patent literature documents, new drawings and the amendment to the title filed on April 12, 2006.
2. The 35 U.S.C. 112, second paragraph, rejections in items 7-8 on page 8 of OA have been withdrawn.
3. The 35 U.S.C. 102(e) rejection in item 10 on page 9 of OA as anticipated by Nguyen has been withdrawn in view of Applicant's 35 U.S.C. 131 declaration, filed April 12, 2006.
4. The 35 U.S.C. 102(b)/103(a) rejection as anticipated by Moradi-Araghi (item 11 on page 10 of OA) has been withdrawn regarding claims 28 and 55 only.
5. The 35 U.S.C. 102(b)/ 35 U.S.C. 103(a) rejection over Moradi-Araghi is maintained for the reasons previously made of record in item 11 on page 10 of OA.
6. The 35 U.S.C. 103 rejection over Nguyen, item 13 on page 12 of OA, has been withdrawn in view of Applicant's 35 U.S.C. 131 declaration, filed April 12, 2006.
7. The 35 U.S.C. 103 rejection of claims 15, 23, 47, 50 and 65 as unpatentable over Moradi-Araghi is maintained for the reasons previously made of record in item 14 on page 13 of OA.

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8. The 35 U.S.C. 103 rejection over Cantu, Cooke and Moreau, item 15 on page 13 of OA, has been withdrawn.

9. The double patenting rejections, items 17 and 18 on pages 16-17 of OA, have been withdrawn in view of Applicant's submission of the Terminal Disclaimers filed on April 12, 2006.

### ***Amendment***

10. The listing of claims submitted with the amendment filed April 12, 2006 fails to comply with 37 CFR 1.121. The listing of claims does not indicate the status of claims 68-81. Furthermore, this listing of claims indicates that claims 24-27, 31 and 51-54 remain withdrawn. However, on page 8, lines 5-6 of the "Remarks/Arguments" section (Item II) of said amendment, Applicant states that "[c]laims 1-14, 24-27, 31-46, 51-54 and 68-81 have been cancelled herein." [Emphasis added] It is unclear as to whether Applicant intends to cancel claims 24-27, 31, 51-54 and/or 68-81 or whether said claims should remain withdrawn. Appropriate correction is required. See MPEP §714:

(c) Claims. Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. *Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered). ... (1) Claim listing. All of the claims presented in a claim listing shall be presented in ascending numerical order. Consecutive claims having the same status of "canceled" or "not entered" may be aggregated into one statement (e.g., Claims 1 – 5 (canceled)).* [Emphasis added.]

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11. Accordingly, for the purpose of this action, claims 15-31 and 47-81 are pending in the application with claims 24-27, 31, 51-54 and 68-81 remaining withdrawn.

### ***Election/Restrictions***

12. Applicant's election to prosecute the claims in Group I of the restriction and the election of poly(orthoesters) as the species for the degradable material were made without traverse and was so indicated in the Office Action of December 13, 2006. The restriction/election has been acknowledged by Applicant on page 9 (Item VI B) of the Amendment. The requirement is still deemed proper and is therefore made FINAL.

13. As regards to the non-elected claims, as discussed above, claims 24-27, 31, 51-54 and 68-81 remain in the application and are considered withdrawn.

### ***Claim Rejections - 35 USC § 103***

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 28 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moradi-Araghi in view of either USPN 5,728,652 to Dobson et al. (hereinafter 'Dobson'); USPN 5,191,931 to Himes et al (hereinafter 'Himes '); or USPN 4,531,594 to Cowan (hereinafter 'Cowan').

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Moradi-Araghi has been discussed previously. Moradi-Araghi is silent regarding the particle size of the various components of the drilling fluid composition, such as the bridging agent and the degradable polymer.

However, it is well known in the prior art to optimize particle size for drilling fluid components, such as a bridging agent, a degradable polymer or other fluid-loss control additives dependent on the particular application/formation.

For example, Dobson teaches that bridging agents are routinely sized to have a particular size distribution sufficient to seal off pores (col. 5, lines 51-65). Himes teaches that particle sizes of solid materials of a drilling composition are manipulated to bridge formation pores to prevent fluid loss (Abstract). Cowan discusses design variability of particle size of fluid-loss control additives in drilling fluids to provide enhanced fluid loss prevention (col. 5, lines 29-43).

Therefore, it would have been obvious to a person of ordinary skill in the art to optimize the particle size of the bridging agent/degradable polymer of a drilling fluid composition in accordance with the particular formation the fluid is applied to. One skilled in the art would have been motivated to do so to incorporate the teachings of Dobson, Himes or Cowan and attain a superior drilling fluid having effective bridging of the formation pores and, thus, enhanced fluid loss prevention.

Thus, claims 28 and 55 remain unpatentable as obvious over Moradi-Araghi.

### ***Response to Arguments***

#### ***The 35 U.S.C. 112 Rejections***

16. Applicant's arguments regarding the 35 U.S.C. 112 rejections (items 7 and 8 on page 8 of OA) have been fully considered and found persuasive. Therefore, these rejections have been withdrawn.

#### ***The 35 U.S.C. 102/103 Rejection over Moradi-Araghi (item 11 on page 10 of OA)***

17. Examiner notes that Applicant has presented separate arguments for the 102 and 103 components of the 35 U.S.C. 102/103 rejection over Moradi-Araghi. Thus, the following response to Applicant's arguments is presented in the same manner, i.e., separately for the 102 or 103 components of this rejection.

##### ***a. The 102 Rejection***

18. Applicant's arguments filed February 17, 2006 regarding the 35 U.S.C. 102 rejection of claims 15-22, 29, 30, 47-49, 56-64 and 66-67 as anticipated by United States Patent Number (USPN) 6,387,986 B1 to Moradi-Araghi et al. (item 11 on page 10 of OA) have been fully considered but they are found not persuasive.

Examiner notes that, regarding claims 28 and 55 only, this 35 U.S.C. 102/103 rejection has been withdrawn but that these claims remain rejected under 35 U.S.C 103 as discussed below.

Applicant's arguments regarding Moradhi-Araghi not "disclos[ing] a bridging agent comprising a degradable material" are inaccurate. As stated on page 10 of OA:

“Moradi discloses a gel-forming composition comprising a material encapsulated with a degradable first polymer ... and a weighting agent such as calcium carbonate ... *which can also act as a bridging agent* ... (see column 3, line 66 to column 4, line 27) ... [wherein] the degradable first polymer may be a polyorthoester (see column 3, lines 12-16) ... [that] can be used during drilling .... The capsules of the first polymer may be fairly small (see Example 1 and column 4) so [it] can act as a bridging agent. [Emphasis added]

Thus, Moradi-Araghi is disclosing a gel-forming composition for drilling comprising, *inter alia*, calcium carbonate (a bridging agent) and a degradable polyorthoester polymer. Calcium carbonate is a well-known, conventional bridging agent that is added to drilling or well treatment compositions to form a “bridge” along pores or fractures thereby building a filter cake to prevent loss of whole mud or filtrate. See, e.g., the following references, by the same inventors (Todd and/or Munoz, Jr.) and assignee (Halliburton Energy) of the instant application, disclosing calcium carbonate as a common bridging agent and/or formation of filter cakes from common bridging materials, such as calcium carbonate: USPN 7,036,588 (col. 1, lines 16-44 of “Background of Invention”); USPN 7,021, 377 (col. 1, line 11 to col. 2, line 36 of “Background of Invention”; col. 3, lines 59-65); USPN 6,983,798; col. 1, lines 12-53 of “Background of Invention”; and USPN 6,422,314 (col. 1, lines 11-53 of “Background of Invention”). Particularly, in paragraph [0004] of the “Background of Invention” section of U.S. Patent Application Publication No. 2005/0059556 to Munoz et al. (CIP of instant application), Applicants state that:

“Subterranean treatment fluids further may comprise bridging agents, which may aid in preventing or reducing loss of the treatment fluid to, *inter alia*, natural fractures within the



subterranean formation. Calcium carbonate is an example of a conventional bridging agent. ... Generally, bridging agents are desired to form fast and efficient filter cakes on the walls of the well bores within the producing formations to minimize potential leak-off and damage. Generally, the filter cakes are removed before hydrocarbons are produced from the formation."

Accordingly, Applicants themselves have acknowledged that the presence of calcium carbonate in a drilling fluid aids in preventing or reducing fluid loss by forming filter cakes on the walls of well bores to minimize leakage. In addition, Applicants in the instant specification disclose blends of bridging agent/degradable materials, such as calcium carbonate and poly(lactic)acid (paragraph [0032]), and that the degradable material can be of any preferred size and shape, such as shavings, flakes, strips, spheroids, pellets and tablets (paragraph [0035]). Thus, the drilling fluid disclosed in the instant specification encompasses a composition containing calcium carbonate as a bridging agent and a degradable polymer as an encapsulant.

In addition, in the only sample of the composition provided in instant specification (Example 1), the disclosed composition contains aqueous sodium chloride, a liquid xanthan biopolymer, a starch derivative, powdered polylactic acid and calcium carbonate. Because the powdered polylactic acid is the degradable polymer component, whereas the calcium carbonate must be the bridging agent, the phrase "bridging agent comprising a degradable material", used throughout the specification and claims, must encompass the situation wherein the bridging material and the degradable polymer are simply mixed together in the composition.

Consequently, Moradi-Araghi's gel-forming drilling composition comprising, *inter alia*, a degradable polyorthoester polymer and bridging material (calcium carbonate) anticipates the instant claims.

*b. The 103 Rejection*

19. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 15-22, 29-30, 47-49, 56-64 and 66-67 as obvious over Moradi-Araghi (item 11 on page 10 of OA) have been fully considered but they are found not persuasive.

Applicant's arguments regarding the patentability of claims 15-22, 29, 30, 47-49, 56-64 and 66-67 over Moradi-Araghi were addressed above in the immediately preceding paragraph and the response to said arguments is incorporated herein.

In response to Applicant's argument that "the uses of the degradable materials in *Moradi-Araghi* are totally different from those of the present invention" a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure or composition is capable of performing the intended use (calcium carbonate as bridging agent in Moradi-Araghi's composition containing polyorthoester as discussed above in paragraph #16), then it anticipates or obviates the claim.

Applicant's arguments regarding the particle size range limitation recited in claims 28 and 55 were fully considered but have become moot due to the new grounds of rejection.

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20. Therefore, the 35 U.S.C. 102/103 rejection of 15-22, 29, 30, 47-49, 56-64 and 66-67 over Moradi-Araghi is maintained for the reason stated above.

*The 103 Rejection over Moradi-Araghi (item 14 on page 13 of OA)*

21. Applicant's arguments regarding the 35 U.S.C. 103 rejection of claims 15, 23, 47, 50 and 65 as unpatentable over Moradi-Araghi have been fully considered but they are not persuasive.

Examiner's discussion of Applicant's arguments concerning Moradi-Araghi of paragraphs #16 and 17 apply equally to the instant rejection and are incorporated herein.

Applicant's arguments regarding Moradi-Araghi disclosing different uses than Applicant had envisaged for the degradable component polymer of Moradi-Araghi's composition are inaccurate. Both compositions are disclosed for use in drilling and well-treatment applications, particularly for preventing fluid/water loss. See Moradi-Araghi (Col. 6, lines 56-65) and the instant specification (paragraph #9).

Moreover, as stated previously, a recitation of an intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to *patentably distinguish* the claimed composition (and its process of use) from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

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In addition, Examiner notes that Applicant did not traverse the assertions in item 14 of OA regarding the use of plasticizers and hydroxyethylcellulose as a fluid loss agent being well known in the art.

Thus, this rejection over Moradi-Araghi is maintained.

*The 103 Rejection over Cantu, Cooke and Moreau*

22. Applicant's arguments have been fully considered and found persuasive.

Accordingly, this rejection (item 15 on page 13 of OA) has been withdrawn.

***Conclusion***

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

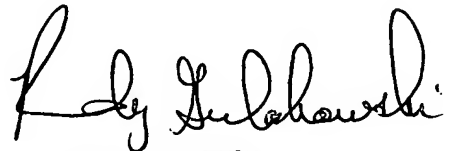
24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John J. Figueroa whose telephone number is (571) 272-8916. The examiner can normally be reached on Mon-Thurs & alt. Fri 8:00-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJF/RAG



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